

Some Example of the Type of Urbanization under the Influence of Industrialization

著者	Tanabe Ken-ichi
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Some Examples of the Type of Urbanization under the Influence of Industrialization

Ken-ichi TANABE

Introduction

There are different opinions on the relation between urbanization and industrialization. The differences of the opinions are mainly concerning the order of their occurrences.

Some people claim that the industrialization takes place first in an urban area and as its result the urbanization occurs, so that the degree of industrialization decides that of urbanization. According to this claim, the urbanization is a synonym with the industrialization.

In other viewpoint the urbanization is essentially different from industrialization, and then the both "-ization" have no direct relation in general. Because urbanization is the process of urban growth and industrialization is a phenomenon representing a stage of economic development.

The author maintains that there are truth in both opinions. The reasons are as follows: Industrialization took place after the industrial revolution, and also in the underdeveloped area after World War II. This phenomenon may be explained as the spatial phase-difference of the advancement of the industrial revolution, which brings about population increase and urbanization. In which the revolution had been already progressed, however, the causes of urbanization are not necessarily sought in the industrialization. That is to say, it is a character of individual urban area, no matter how it is accompanied with industrialization or not.

In this paper, the author will not discuss on the relation in detail, but he will present the several types of urban growth influenced by the construction of large manufacturing enterprises.

1. Ishinomaki, Kamaishi and Miyako

These three cities are rather small in the size of population, and they have somewhat resembling characters. Namely, their population in the actual urban areas: is Ishinomaki 61,573, Kamaishi 56,617, and Miyako 28,163. Each city

* Dr. Sci., Professor of Geography, Inst. Geogr., Fac. Education, Tohoku Univ.



Fig. 1. Index map of the site of sampled cities

has a large factory; a paper mill in Ishinomaki, an iron and steel mill in Kamaishi and a chemical fertilizer factory in Miyako. Each of them is counted as one of the famous fishing ports faced to the north-western Pacific fishing ground. Considering the railroad, all of them are connected by branch lines with the trunk line of the Tohoku District, and in all cases their distances are such that it takes about 1.5 hours.

The grounds of their factories are very large and their employees live in each company's houses agglomerated around the factory. So that when these factories were established, the factory grounds and the residential sections for the workers were added to the former urban areas.

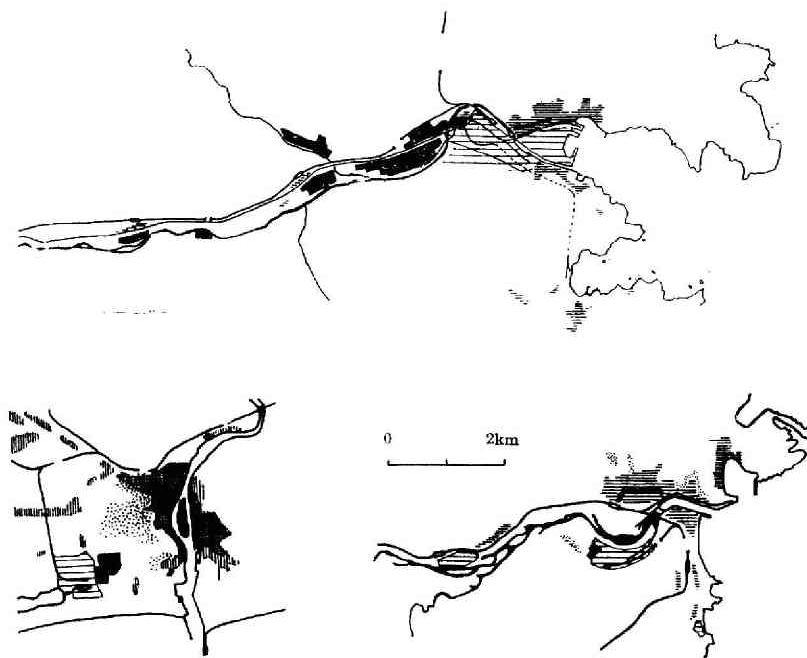


Fig. 2. Ishinomaki (*left*), Kamaishi (*upper*) and Miyako (*right*)
 horizontal (rough): factory ground
 " (dense) & check: old built-up area
 black: company's houses
 dot (small): new built-up area
 dot line: main shopping street

These areal additions were clearly urban growth as is shown in Fig. 2, at least, as far as the areal expansions are concerned, it shows that urbanization is accompanied with industrialization.

While, the additions of new industry and the populations as its employees naturally influence the activities of the city. And it is certainly seen in the commercial activities. The change in the activities will be reflected on the composition of the central shopping street.

In cities of the same scale, the type of the central shopping street is generally the same.¹⁾ However in these cities, the type of that in Kamaishi is more highly developed and the type in Ishinomaki and Miyako are normal, comparing with that of the city group of same scale (Fig. 3). That is indicated by the fewer

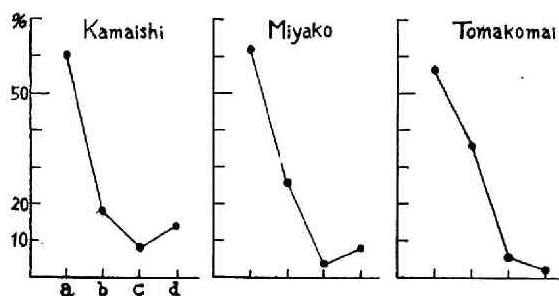


Fig. 3. Composition of the kinds of shops in central shopping street

a: non-daily goods shop b: daily goods shop
c: office d: wholesale shop

number of daily good's shops in Kamaishi. The first reason is that several market-type shops have been managed by the purchasing agent of the steel mill company, and many employees and their families do their ordinary shopping in these places, in which the daily goods are sold in lower prices. Therefore their purchasing power for monthly and yearly goods becomes larger and as the result the central shopping street has flourished.

The second, the number of employees of the factories at Miyako and Ishinomaki is smaller than that of Kamaishi, and they make lower percentages in the

1) R. Fujimoto: The Shopping Street: As an element of city structure in North Japan. Sci. Rept. 7th Ser. (Geogr.) No. 2 (1953), pp. 19-29

———: Shinjo City and Two Small Towns. Sci. Rept. 7th Ser. (Geogr.) No. 3 (1954), pp. 91-96

K. Tanabe: Yonezawa City and its Subordinate Towns. Sci. Rept. 7th Ser. (Geogr.) No. 6 (1957), pp. 1-41

total populations of both cities, so that the influences of the factories are not clearly represented in the central shopping streets of both cities.

2. Tomakomai

Tomakomai had been an extreme case that there was one large factory in a city since 53 years ago, when a paper mill established, as is seen in Kamaishi. The number of employees of the factory was about 2,000 and the urban population was about 15,000. However, its feature has been changed from ten years ago, because a new port for coal shipment has been constructed on the east coast, and a vast manufacturing ground has been prepared eastwards from the old built-up area and the port. The area is about ten times as large as the old city. Its coal yard has been worked partly since Sept. 1963, and an artificial board (homogeneous wood) manufacturing factory employed 1500 persons has been working since 1958 and several other factories were established year by year. These new factories are scattered in the wilderness preparing for manufacturing ground apart from the old city.

While, the increase of the workers accompanied with the construction of the port and of the equipment of coal shipment and accompanied with above factories have caused the expansion of the residential area toward northeast. Namely, the growth of the city area is mainly due to the addition of the port and the flourish

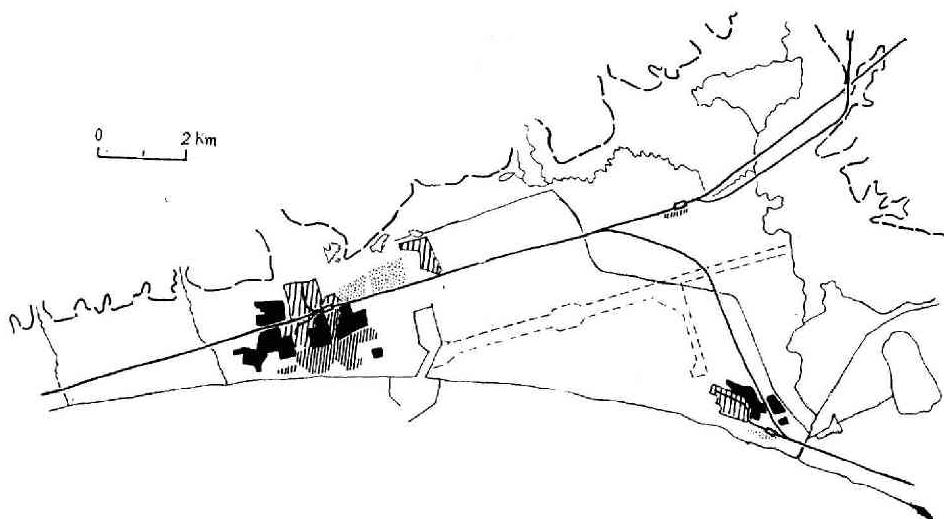


Fig. 4 Tomakomai

vertical (rough): factory ground
black: company's houses

vertical (dense): old built-up area
dot: new built-up area

of the construction industry, and the increase of the factory-workers has influenced secondarily. And the type of central shopping street has stopped in lower degree, as is shown in Fig. 3. However, in future the construction of the port will be completed, then factories and their workers will lead the expansion of the city.

3. Hachinohe and Muroran

Hachinohe and Muroran are the two cities which have been rapidly industrialized in the North-east Japan. In spite of this fact there are different phenomena in the urbanization of both cities.

In Hachinohe, a conurbation of an old castle town to a fishing port has been made from the early industrialization as an unique case in the Tohoku District²⁾. The construction of a cement manufacturing factory in the gap between both towns worked as the fuse. And then several large factories which used iron sand as

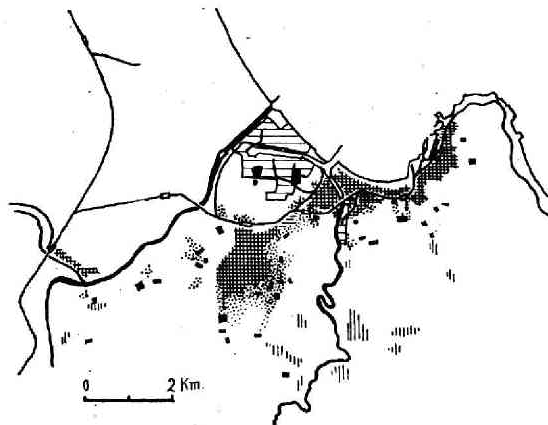


Fig. 5 Hachinohe

check: old built-up area	horizontal (<i>rough</i>): factory ground
horizontal (<i>dense</i>): conurbated area	black: company's or municipal houses
dot: new built-up area	vertical: rural village.

raw materials were built and they were accelerated the conurbation. However, the acceleration should partly due to the general growth in the surroundings of the urban region. In other words, the size of the connected urban region was fairly large compared with the area of the additional factories, therefore normal development of the urban structure was not disturbed and the urban activities were prospered by these additions.

2) K. Tanabe, Shunsaku Watanabe: Conurbation in Hachinohe (not published)

The first stage of the growth of Muroran was as a shipping port of the Hokkaido coal, and in 1911 a steel mill was introduced. In this stage the city prospered as a commercial centre of its environs. But since another iron and steel mill (1934), a cement manufacturing factory (1955) and an oil-refinery (1956) were constructed, a vast area has been added to the old city as the site of the factories and their working-men's residences.

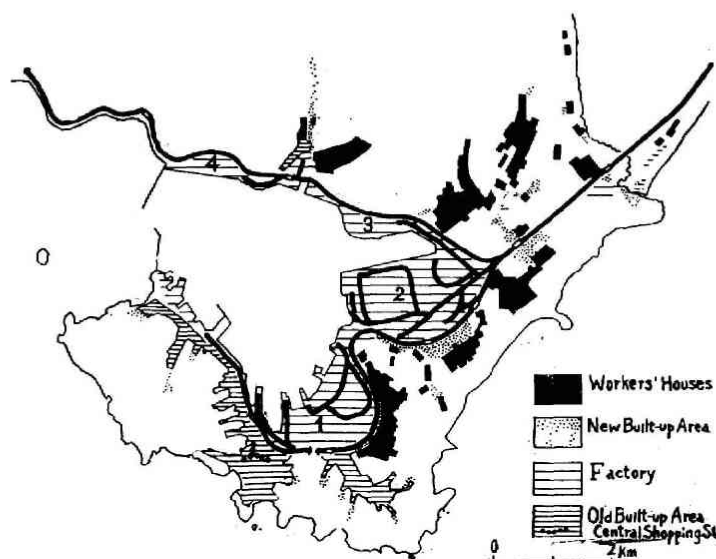


Fig. 6 Muroran

1: Nippon Seiko steel mill (established in the early day) 2: Fuji Seitetsu iron and steel mill 3: Fuji cement manufacturing factory (connected with No. 2) 4: Nippon Sekiyu oil refinery

A new business area was formed on the south of the No. 2 factory, and now on the northeast side of the factory the construction of urban area has been carried out under a new city plan to the vacant place between large company-houses areas, so the area may become a new centre of this city in near future.

Therefore the functional urban centre was not located at the centre of its urban area, and the factories and their employee's housing area have taken the central function in the activity of the city. Even in the commercial activity, as the market-type distribution centre of each company sites on each grouping of company's houses and some individual shops are built near these residential sections in order to separate from the old city, the purchasing power of these workers did not so influence to the old commercial centre, although the old centre has held the prominent position at present. This is different from the case in Kamaishi and of course that in Hachinohe.

4. Hitachi

The case of Hitachi city is very different from above mentioned cities. In the early age, there were small agricultural villages and fishermen's hamlets scattered



Fig. 7 Hitachi

1: Hitachi Mine (central mining place), 1': Hitachi (copper) refinery, 2: Hitachi Seisakusho copper electrolytic & mining machine factory (mother factory) 3: Hitachi Seisakusho electric machine factory, 6: two branch factories of No. 5, 7: branch of No. 4 (electric insulator factory), 8: branch of No. 4 (cable factory), 9: new site of the group of subcontract & connected factories 10: branch of No. 3, 11: Hitachi Laboratory, 12: new Hitachi harbour (constructing) check: fishing villages

on the marine terraces and the sea shore, so the nuclei of urban area did not exist in the region.

The earlier small urban area was born in 1905 at the valley mouth of Miyata River. There is a famous large copper mine at the upper part and the refinery was built near the mouth. The area consisted of the miner's houses and very small shopping area on the left side of the river.

A cement manufacturing factory was established in 1907 on the river mouth, 1 km apart from the earlier nuclei. Then, a machine factory for the mine and an electrolytic factory were constructed in 1910 within a ground on the right side together with many worker's houses around the factory ground and they had become the mother factory in the later Hitachi city. In 1924, an electric cable factory started in the southern neighbourhood of the mother factory and its worker's residential area was formed connecting the former areas. In 1928 at the southern part of the cement factory an electric machine factory followed.

The vacant area surrounding these factories had been gradually filled by small subcontracting or related factories and the residences of their managers and workers, and then a shopping area was formed. This area had become to show an urban landscape step by step and the early small shopping area had been absorbed in this area.

Two branch electric machine factories (Taga and Kokubu) were constructed, 2.5 km distant from the south of the urban area in 1935. A small urban area was born at the western side of the factories and several housing sections were sprawled between both urban areas.

After World War II, several branch factories were established at the north or south and some subcontracting factories made grouping at the southeast, so the new company's houses and the municipal houses were built at various places. This recent urban growth was described in detail by S. Watanabe³⁾.

In short, the force of the urban growth at Hitachi is the development of many kinds of enterprises well systematized under the same capital. So that the formation of urban area was made first in the industrial area and the workmen's area, and followed by the other functional areas.

5. Toyota and Kooriyama

It is said that Toyota is Japanese Detroit. Namely, the largest automobile factory in Japan exists at the city. But it cannot be compared with Detroit in the

3) Shiro Watanabe: Patterns of Urbanization in the Suburbs of Hitachi City (in Japanese) Ann. Tohoku Geogr. Ass. Vol. 15 (1963) pp. 121-128

scale. However, the urbanization shows a specific feature. That is, the small castle town (Koromo) is surrounded by many factories, and the urbanization seems to be weak. It is shown that a number of the workers are living as commuters. And then, it is that the industrialization progresses so rapid that the urbanization can not follow it.

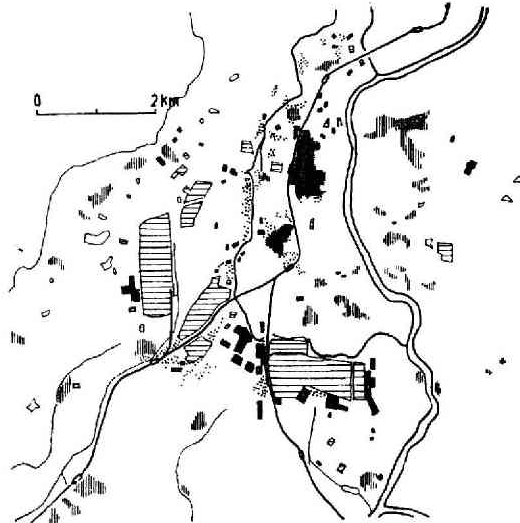


Fig. 8 Toyota check: old built-up area, vertical: rural village

Kooriyama⁴⁾ was also surrounded by various kinds of factories, and the urbanization started later than the rapid industrialization. The industrialization was made from 1917 to 1939, especially and after 1936 it was very rapid. At that time the commuters rapidly increased, and after 1950 the commercial area was completed and the growth of the residential area has continued at present.

It may be considered that the process of the urbanization of Kooriyama is a sample case for that of Toyota. Or again, the feature of the future age of Toyota may be shown in the present feature of Hitachi.

Conclusion

In the development of above described cities, there are somewhat abnormal features. So that it is natural that the progress of the urbanization in those cities

4) K. Tanabe: Urbanization in Tohoku District (in Japanese). Chiri (Geography) Vol. 5 (1960), pp. 67-72

are not normal. However, the author has interested in the progression courses of urbanization in these cities, and intends to classify them into following types.

The first type is presented in the cities, Miyako, Ishinomaki and Hachinohe. The characters are that the functions and the activities are little affected by the industrialization, and the course of urbanization is like that in market towns.

The second type is seen in the cities, Kamaishi, Muroran, Hitachi and Tomakomai. The degree of industrialization is extremely large compared with the scale of the cities, so the industrialization completely leads the urbanization, and the areal structure of their urban regions are considerably distorted.

The third type is seen in Kooriyama, in which the urbanization has overtaken to the industrialization and the future course of the development will be expected to take that of the first type.

Above classification is clearly distinguished by means of the municipal tax per capita in each city. Because those rate represents the relation between productive power and city population.

Table 1.

(1960)	actual population of urban area	municipal tax per capita (yen)	number of workers classified by kind of industry			
			construct.	manufact.	wholesale & retailer	service
Miyako	28,163	2,211	1,553	3,417	3,962	2,567
Ishinomaki	61,573	3,570	2,464	8,572	7,872	3,678
Hachinohe	104,096	3,400	2,941	10,627	13,682	6,872
Tomakomai	25,342	5,314	4,415	5,133	4,498	3,109
Kamaishi	56,617	5,088	2,314	10,717	5,469	4,345
Muroran	132,029	5,289	7,042	16,796	12,399	7,352
Hitachi	100,246	5,000	5,407	45,058	9,456	7,894
Toyota	12,587	8,783	1,206	14,846	3,173	1,972
Kooriyama	74,301	3,232	2,741	9,674	12,241	6,215

The author has raised an objection to the multiple nuclei theory, but he will support the way of thinking in which industry becomes central function, in the theory. That is, the evidence is the existence of the second type of the urban development.